General Environmental Incident Summary

Incident: 1846 ***Date/Time Notice:*** 1/17/2013 1400 ***DEM Incident No:***

Responsible Party: Alliance Pipeline, L.P.

Date Incident: **1/7/2013** ***Time Incident:*** 1800 ***Duration:***

County: Burke ***Twp:*** 162 ***Rng:*** 88 ***Sec:*** 32 ***Qtr:***

Lat: 48.81438 ***Long:*** -102.12020 ***Method:*** Derived from TRS

Location Description: Southern half of Section 32. North side of U.S. Highway 52 at the crossing of Upper Des Lacs Lake. Approximately 5.3 miles east of Bowbells. Approximately 9.0 miles north of Kenmare.

Submitted By: Patrick Robblee ***Affiliation:***

Address:

City: ***State:*** ***Zip:***

Received By:

Contact Person: Troy Meinke
6385 Old Shady Oak Road
Suite 150
Eden Prairie, MN 55344

Distance Nearest Occupied Building: 0.5 Miles

Type of Incident: Surface release of drilling mud associated with pipeline construction

Description of Released Contaminant: **Drilling mud consisting of water and bentonite clay with small quantities of quartz, tridymite, and cristobalite**

Volume Spilled: **15.00 cubic yards** ***Ag Related:*** No

EPA Extremely Hazardous Substance: No ***Reported to NRC:*** No

Cause of Incident:

The surface releases of drilling mud occurred in association with installation of a natural gas pipeline (Alliance Pipeline's Tioga Lateral Project) beneath Upper Des Lacs Lake using the horizontal directional drill (HDD) construction method. The HDD method is a process that allows for trenchless construction across an area by drilling a hole below the depth of a conventional pipeline lay, and then pulling a prefabricated section of pipe through the hole. The method is sometimes used to avoid direct impacts on sensitive landscape features, such as sensitive waterbody crossings, or areas that otherwise present difficulties for standard pipeline construction. To begin the HDD process, a drill rig is placed on the entry side of the HDD and a small pilot hole is drilled along a predetermined path. The pilot hole is then progressively enlarged through a process called reaming. A reaming tool is installed at the end of the drill string on the exit side of the pilot hole, and then drawn back to the drill rig to enlarge the hole. Several passes with progressively larger reaming tools are sometimes required to enlarge the hole to a sufficient diameter to accommodate the pipeline. During this process, drilling fluid, or mud, consisting of a mix of water and bentonite clay, is circulated through the hole to remove drill cuttings and maintain the integrity of the hole. Once the reaming process is complete, a prefabricated segment of pipe is attached to the drill string on the exit side of the crossing, and pulled back through the hole toward the drill rig. The method was selected for the crossing of Upper Des Lacs Lake to avoid ground disturbing activities within the lake. The length of the HDD at this location is approximately 1 mile.

Although the HDD method typically avoids impacts on water quality by precluding disturbance of the

bed and banks, an inadvertent release of drilling mud (sometimes referred to as a “frac-out”) is possible if drilling fluids escape the drill hole and are forced through fractures in the subsurface substrate to the ground surface. This is what occurred for Alliance’s crossing at Upper Des Lacs Lake.

A summary of the circumstances regarding the surface releases of drilling mud is provided in the bullet list below:

•Five surface releases to date have been documented by Alliance along the drill path adjacent to Upper Des Lacs Lake. The first occurred on Sunday, January 6, 2013, and the last occurred on Sunday, January 13, 2013.

•All five releases occurred on North Dakota Department of Transportation (DOT) lands adjacent to U.S. Highway 52. One release occurred on the west hillside adjacent to the lake along the highway. The remainder occurred along made land across the lake associated with the highway.

•Alliance estimates that a combined total of 15 cubic yards of drilling fluid was released. Some of the fluid remained on land at the release site, and some flowed onto ice in a backwater area adjacent to the highway; the backwater area is separated from the main lake by a manmade peninsula most likely created during construction/restoration activities associated with the highway.

•While the releases occurred on state (DOT) land, some of the material that flowed onto the ice reached federal land under the jurisdiction of the U.S. Fish and Wildlife Service (FWS) at Des Lacs National Wildlife Refuge (NWR).

•The drilling mud is comprised of non-toxic, industry-standard materials. The mud consists of water and bentonite clay, with small quantities of quartz, tridymite, and cristobalite.

Risk Evaluation:

There are no immediate or long-term risks associated with the releases. The drilling mud poses no risks to the environment and no health risks.

# of Fatalities: 0 ***# of Injuries:*** 0 ***Affected Medium:*** 04 - water and soil

Potential Environmental Impacts:

The drilling mud poses no risks to the environment. As noted above, Alliance has committed to work with FWS staff to prepare a plan for on-going monitoring and clean-up and for any contingencies that may be required in the event of a release to Upper Des Lacs Lake.

Action Taken or Planned:

Actions which have been or will be implemented by Alliance are desribed in the bullet list below:

•At the time of each release, drilling activities were suspended, and construction crews worked to contain and clean-up the release. Silt fence was deployed at each site to contain the release. Following adequate containment, drilling mud in liquid form was removed from the site by a vacuum truck. Frozen drilling mud on the ice was removed using a track-hoe with an extended arm and a bucket attachment. Once the material was contained and clean-up was in process, drilling activities resumed. Containment sites were monitored constantly, and any additional mud releasing to the surface was removed with the vacuum truck.

•Approximately 80 percent of the released material has been cleaned up and removed. The remaining material is on ice where it is not currently safe for workers to operate due to thin ice. Alliance is monitoring this area, and will remove the remaining material as the ice thickens and it is safe for workers to operate.

•As of this email, there is no active flow at any of the release sites. Drilling is continuing, and Alliance is monitoring both the release sites and the entire area for the HDD operations at the site.

•The material removed from the release sites has been recycled for continued use in the HDD operation.

•Other actions taken by Alliance to respond to or reduce the risk of additional releases include the

following: monitoring of surface conditions along the drill path; monitoring of the pressure of drilling mud within the drill hole and monitoring of drilling mud returns at the entry site for the drill; placing silt fence along the drill path between the highway and the lake as a precautionary measure in the event of another release; advancing the drill head in short segments, then retracting the drill head, to reduce pressure within the drill hole; and increasing the depth of the drill head from about 80 feet below surface to about 110 feet below surface.

•Alliance notified the FWS, COE, and DOT of the surface releases. Alliance understands that the COE notified the DOH; this is documented in an email from the COE to Alliance, and was confirmed by Mr. Kris Roberts of the DOH.

•At this point, there is no indication that a release of drilling mud has occurred within the lake. As noted, Alliance is monitoring the pressure and returns of the drilling mud. Changes in pressure or volume in the absence of a confirmed surface release could indicate a release to the water.

•Kris Robertson of the DOH visited the site on January 16, 2013. Both the FWS and ND DOT have visited the site.

•Alliance emailed a copy of the Material Safety Data Sheet for the drilling mud of Mr. Dennis Fewless of the DOH on January 17, 2012.

•Alliance has committed to working with FWS staff to prepare a plan for on-going monitoring and clean-up, verification that no releases have occurred to Des Lacs, and contingencies for clean-up in the event that a surface release to the water occurs or is confirmed. Alliance will provide a copy of the plan to the DOH.

Wastes Disposal Location: The material removed from the release sites has been recycled for cotinued use in HDD operations at the site.

Agencies Involved: FWS, COE, ND DOT

Updates

Date: 1/17/2013 ***Status:*** Inspection ***Author:*** Roberts, Kris

Updated Volume:

Notes:

Roberts and Stockdill inspected. Met with Alliance Pipeline representative and talked with RMG environmental contractors. Pete Wax had been notified of the frac-out on Monday, 1-7 by Corp. Silt fence being installed along the whole length of Highway 5 (Not Highway 52). Pipeline depth now 110 feet below lake bed (not surface). Neither company or RMG know if material fracced out under the ice, or will as rest of bore is completed. MSDS for additives should be checked for all components, not just for hazardous ones. Some may have aquatic impact, though they may not as well.
Pete Wax - DoH - accepted oversight of the balance of the project.

Date: 4/13/2016 ***Status:*** Inspection ***Author:*** Wax, Pete

Updated Volume:

Notes:

On site 13:05. 10 mph wind from the SE, partly cloudy, 63 degrees. Nearest water is Upper Des Lacs lake above the pipeline. This water body received some of the drilling material that was released as a result of the frac-out. The drilling material does not pose a risk to the aquatic community from contact, but a heavy layer can suffocate aquatic macroinvertebrates and cover spawning areas. Walked entire horizontal directional drill (HDD) pipeline route and found no drilling mud exposed on the ground or water. Recommend no further action. Off site 13:45.